

VOLUME 1, NUMBER 4
OCTOBER, 1982

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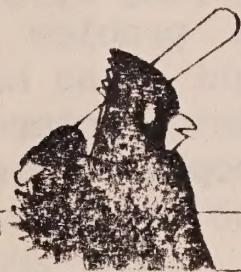
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Cardinals

Cardinals
ST. LOUIS

BEAT THE
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THE
CARDINALS
IN THE
WORLD SERIES

SLAPR PROTOCOL
NEWSLETTER OF THE
ST. LOUIS AREA PACKET RADIO CLUB

identifies the purpose of the packet

LOGO

As was discovered by the Minneapolis Gas Co in the 1940's, personalization is very important to gain identification. The advertising and public relations office invented Minnegasco, the little indian girl whose headdress was a stylized gas flame. In nine months the Minneapolis Gas Co. went from a company with a severe PR problem to one thought of as having special interest in the people of Minnesota.

SLAPR also needs to be identified. We need a logo which can tell the world who we are and what we are about. I suggest that a logo contest be held for the purpose of selecting a logo that can be used here in our SLAPR PROTOCOL and all other SLAPR material.

So, here are the parameters for the contest. All entries must be in black on white and submitted to the SLAPR

PROTOCOL address by November 29, the date of the regular SLAPR meeting for this month. A committee of three members will present the two best possibilities.

ELECTRONIC
NEWSLETTER

This issue of our SLAPR PROTOCOL is the first to to also be available electronically. Thanks to to the efforts of KA9AKM, Scott, you are invited to experiment with receiving your PROTOCOL issue by way of the twisted pair.

Since this is experimental and will be available by a family phone line, it will have to be very limited. Access it with a 300 baud, Bell 103 compatible modem at 618-656-8154 beginning Saturday, Oct. 23 at 10:00 pm for a period of 14 hours.

SLAPR ROSTER CONTINUED

KA9HNT MIKE PETZ 76 PASADENA FAIRVIEW HGTS 62208 618-397-9754	WB9KDY VON DEEKE 2120 J SERENIDAD MARYLAND HGTS MO 63043 314-434-9525
W0MKJ GIL PAULS 1214 LAKEMONT DR ARNOLD MO 63010 314-287-2298	WB0TLM PATTI NICHOLS 3334 OXFORD ST LOUIS MO 63143 314-647-8994
K0KN RAY KNEFEL 13 YORK HILLS ST LOUIS MO 63144 314-863-6034	KA0NSO FRANK SPAVALE 7073 SPAVALE RD HIGH RIDGE MO 63049 314-677-3759
N0DVS FRANK GOEINGER 8943 NEWBY AVE ST LOUIS MO 63147 314-869-9328	N0BKH ERNIE STEPHENS 7018 MORGANFORD ST LOUIS MO 63116 314-
WB0IUN STEVE WELTON 2624 ROSELAND TR #13 MAPLEWOOD MO 63011 314-645-4581	K9NG STEVE GOODE APT 314 140 W. WOOD PALATINE IL 60067 312-358-6853
KA0OID JO SPAVALE 7073 SPAVALE DR HIGH RIDGE MO 63049 314-677-6936	WA4GWG ROBERT EWING BOX 304 NAVESINK NJ 07752 201-291-5168
N9BHW JIM DUFFEY 86 W. WOODLAND DR E. ALTON IL 62024	W9SKD F. R. GEORGE 16219 S. GEORGE ST. PLAINFIELD IL 60544 815-436-5980
W5TJI BILL ALLSOPP 42 BEVERLY PLACE LITTLE ROCK AR 72207	

	DATA	
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the field that contains the message being sent

CONNECT: TERMINAL INTERFACE TO TNC

The terminal interface to the TAPR Terminal Node Controller is designed to provide either a parallel or serial interface to the users terminal or computer. Lyle Johnson, TAPR hardware chairman, has done an excellent job of designing an interface that is capable of being interfaced to nearly any terminal.

The parallel interface can be configured in either of two ways. The sixteen TTL data lines can be configured as two one-way ports or a single two-way port. Additional lines are used as strobe lines for these ports. This interface uses a 6520 parallel I/O device.

The serial port utilizes a 6551 full duplex UART with each of the terminal interface lines converted to RS-232 levels. Transmit and receive data are sent at baud rates between 50 and 19,200. There are four additional data control lines between the TNC and the users terminal:

1. CLEAR TO SEND - This line allows the user to "tell" the TNC that it is able to receive data from the TNC.

2. READY TO SEND - This line allows the TNC to tell the user that it is able to receive data from the user.

3. DATA TERMINAL READY - This line allows the user to tell the TNC that it "DOESN'T WANT DATA".

4. DATA CARRIER DETECT - This line allows the TNC to tell the user that it has detected a carrier on the channel.

Each of these lines may be connected to the users terminal or optionally hard jumpered to

the appropriate state to allow communication. One mode of operation is to allow clear to send and ready to send to perform a flow control function between TNC and terminal so that the terminal is always able to accept information from the TNC.

The TNC to terminal flow control is also implemented in the TNC software. If the terminal device has some intelligence, then the flow of data can be controlled by sending a start and stop protocol between devices. The actual characters used for control are set up by the user and stored in the NO-V-RAM device.

Numerous terminal parameters and control codes can be stored in the NO-V-RAM. The user can configure his terminal characteristics such as parity ON/OFF, ODD/EVEN PARITY, NUMBER OF DATA BITS, AND NUMBER OF STOP BITS. All control characters can be configured as required by the user. For example, the control character used for a backspace (after control-H or delete) can be set and the character echoed back can also be set. An upper case only flag is available along with a parameter to specify the terminal screen width.

All this flexibility should make interfacing between TNC and terminal a very simple task.

disconnect: BILL, WD0ETZ

* * * * *

DOCKET 81-699

Effective October 28 the FCC has granted nearly limitless use of digital communication on the frequencies above 50 mHz. The order especially mentions the use of digital codes that represent alphanumeric characters for voice, facsimile, RTTY, and computer to computer (including packet systems) communications. See page 7 for further information.

	DATA	
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the field that contains the message being sent

connect: PACKET RADIO DIGIPEATER FREQUENCY

I have done some preliminary investigations into an appropriate operating frequency for the St. Louis Packet Radio digipeater. The ARRL 2 meter bandplan designates the frequency range 145.50 to 145.80 for "miscellaneous and experimental modes". (145.05 is within a range designated as "weak signal and FM simplex".) There is also some precedence here since some Vancouver packeteering is on 145.65.

I suggest that everyone interested in operating PACKET in St Louis verify that their radio will operate on this frequency. If anyone's radio won't work there, let me know and I will select another frequency. I want to find a spot where we can all work and no one will need to buy a new radio just for PACKET. If anyone knows of any other reasons why 145.65 is not a good choice then let me know. I'm sure we can find a home somewhere.

If this is acceptable to everyone (and Sparky agrees that it's O.K.) then 145.65 will become the St Louis digipeater frequency.

disconnect: BILL, WD0ETZ

* * * * *

FOR SALE DIGITAL RX01 COMPUTER
 WD81B-CK WORD PROCESSOR
 KEYBOARD, 2 DRIVES, CRT
LQP8-EA LINE QUALITY PRINTER
LQPXX-A BI-DIRECTIONAL TRACTOR

WRITE MRS. PAT OSTENDORF
 1400 N. 7TH STREET
 ST LOUIS MO 63106

NEW REGULATIONS FOR DIGITAL COMMUNICATIONS

Section 97.69 is revised to read:

\$97.69 Digital communications.

Subject to the special conditions contained in paragraphs (a), (b) and (c) below, an amateur radio communication may include digital codes which represent alphanumeric characters, analogue measurements or other information. These digital codes may be used for such communications as (but not limited to) radio teleprinter, voice, facsimile, television, communication to control amateur radio stations, models and other objects, transference of computer programs or direct computer-to-computer communications, and communications in various types of data networks (including so-called "packet switching" systems); provided that such digital codes are not intended to obscure the meaning of, but are only to facilitate, the communications, and further provided that such operation is carried out in accordance with other regulations set forth in this part. (For purposes of this section, the sending speed (signaling rate), in baud, is defined as the reciprocal of the shortest (signaling) time interval (in seconds) that occurs during a transmission, where each time interval is the period between changes of the transmitter state (including changes in emission amplitude, frequency, phase, or combination of these, as authorized).)

(a) Use of the International Telegraphic Alphabet No. 2 (Baudot code) is subject to the following requirements:

(1) Transmission shall consist of a single channel, five unit (start-stop) teleprinter code conforming to the International Telegraphic Alphabet No. 2 with respect to all letters and numerals (including the slant sign or fraction bar); however, in the "figures" positions not utilized for numerals, special signals may be employed for the remote control of receiving printers, or for other purpose indicated in this section.

(2) The sending speed shall not exceed 100 words per minute (75 baud).

(3) When frequency (or phase) shift keying (type F1 emission) is utilized, the deviation from the mark signal to the space signal, or from the space signal to the mark signal, shall be less than 900 hertz.

(4) When audio frequency shift keying (type A2 or F2 emissions) is utilized, the highest fundamental modulating frequency shall not exceed 300 hertz, and the difference between the modulating audio frequency for the mark signal and that for the space signal shall be less than 900 hertz.

(b) Use of the American Standard Code for Information Interchange (ASCII) is subject to the following requirements:

(1) The code shall conform to the American Standard Code for Information Interchange as defined in the American National Standards Institute (ANSI) Standard X3.4-1968.

(2) F1 emission shall be utilized on those frequencies between 3.5 and 29 MHz where its use is permitted; and the sending speed shall not exceed 300 baud.

(3) F1, F2 and A2 emissions may be utilized on those frequencies above 28 MHz where their use is permitted; and the sending speed shall not exceed the following:

(i) 1200 baud on frequencies between 28 and 50 MHz;

(ii) 19.6 kilobaud on frequencies between 50 and 220 MHz;

(iii) 56 kilobaud on frequencies above 220 MHz.

(4) A1 emissions may be used for ASCII where F1 is permitted; and the sending speed shall not exceed that specified for other ASCII coded emissions on the same frequency.

(c) In addition to the above provisions, the use of any digital code is permitted on amateur frequencies above 50MHz, except those on which only A1 is permitted, subject to the following requirements:

(1) Communications using such digital codes are authorized for domestic operation only (communications between points within areas where radio services are regulated by the U.S. Federal Communications Commission), except when special arrangements have been made between the United States and the administration of any other country concerned.

(2) The bandwidth of an emission from a station using such digital codes shall not exceed the following (where for this purpose the bandwidth is defined as the width of the frequency band, outside of which the mean power of any emission is attenuated by at least 26 decibels below the mean power of the total emission; a 3 kHz sampling bandwidth being used by the FCC in making this determination):

(i) 20 kHz on frequencies between 50 and 220 MHz;

(ii) 100 kHz on frequencies between 220 and 1215 MHz;

(iii) On frequencies above 1215 MHz any bandwidth may be used provided that the emission is in accordance with §97.63 and §97.73(c).

(3) A description of the digital code and the modulation technique shall be included in the station log during all periods of use and shall be provided to the Commission on request.

(4) When deemed necessary by an Engineer-in-Charge of a Commission field facility to assure compliance with the rules of this part, a station licensee shall:

(i) Cease the transmission of digital codes authorized under this paragraph.

(ii) Restrict the transmission of digital codes authorized under this paragraph to the extent instructed.

(iii) Maintain a record, convertible to the original information (voice, test, image, etc.), of all coded communications transmitted under authority of this paragraph.

PORATBLE PACKET RADIO SYSTEM IN SOUTH FLORIDA

The Motorola Amateur Radio Club sponsors a packet radio system in Plantation, Fl (Fort Lauderdale area). The system is in the prototyping stage now, and as of yet, we have not settled on a specific protocol, although the social protocol looks closest to our proposed "standard". Although HDLC is popular, I like Async. I just hope it works out well. The system will use Motorola RDX components. The RDX is a portable (hand held) data terminal system that consists of up to 32 portables talking to a controller which interfaces to a host computer via a Bysync Protocol. I will reprogram the controller to speak out new protocol and modify some hand holds to allow access to the system too! Of course, home computers can talk to the system as well. Assigned frequencies for the system are: 444.7/449.7 MHz. The system will be full duplex allowing reception of messages from one station while talking to another. A "parity" bit will be sent with the out-going message characters to tell each user if the input channel is currently busy, thus lowering collisions. Note that the current RDX system is polled, but the packet system is contention. This looks most interesting. The system should be on the air for tests within a month or so from my QTH, and then early next year installed at the Motorola plant.

from Jack Brindle, WA4FIB
via HAMNET from COMPUSERVE

* * * * * REPORT: PACKET SUCCESS ON OSCAR * * * *

N5AHD, Bob Diersing, reports successfully sending and receiving packet communications through OSCAR 8. Tom Clark, W3IWI, was the other end of the experiment that used first nbfm and then ssb. On September 1 and 6 both stations used Vancouver Terminal Node Controllers and software developed by AMRAD and Doug Lockhart, VE7APU. These tests used 1200 baud and Mode-J.

* * * * * PACKET REPEATER DIRECTORY * * * * *

SLAPR is aware of the following PACKET REPEATERS.

CA - Menlo Park, KA6MR

146.58 1200 baud Simplex
VADCG (Vancouver Amateur Digital Communica-
tion Group) based system.
This is the original. KA6M, Hank Magunski
311 Stanford Ave.
Menlo Park, CA 94025

VA - Vienne, WB5MMB/R

147.585 1200 BAUD Simplex
VADCG based system
One of the AMRAD group.

Sandy Sanders
404 Park St. S.E.
Vienne, VA 22180

VA - Falls Church, WB4JFI/R

147.81/21 1200 BAUD Half duplex
VACDG based system
Another AMRAD good guy. Terry Fox
1819 Anderson Rd.
Falls Church, VA 22043

NY - Rochester, WA2RYT/R

146.46 1200 BAUD Simplex
VACDG based system
Using AMRAD repeater
software.

Ray Williams
305 Berry Rd.
Rochester, NY 14617

NJ - Little Falls, WB2CAM/R

146.535 1200 BAUD Simplex
VACDG based system J. Gordon Beattie, Jr
RATTS 45 Union Ave.
Little Falls, NJ 07424

If you are aware of any other repeaters in operation or installation, please let us know and we will include the information in an up-coming issue of SLAPR PROTOCOL. Our thanks to HAMNET DATABASE on COMPUERVE for the above information.

FLAG

identifies the beginning or the end of a packet

NEW SOURCES OF PACKET INFO.

Since Bill's original article on sources of information on PACKET, I've stumbled across more sources. I would like to share them with you.

I've recently acquired a new "toy", an ADDS Viewpoint dumb terminal. Since I don't have a TNC board yet to exercise it, I decided to borrow a friend's modem and play with some bulletin boards around the country. Believe it or not, there are several that cater to PACKET exclusively! First there is N9DIX, Jim Jones, and Dick George, W9SKD, is Chicago. There landline is 312-759-7005. Also Skip out in LA has a real neat CPM BBS which if you can handle CPM files has lots of listings of existing PACKET software. It is mostly for the Vancouver TNC. Skip's, WB6YMH, BBS tele is 213-541-2503. Of course AMRAD also has there system in McLean, VA. It is run by Terry Fox, WB4JFI. It can be reached at 703-734-1387.

Lastly, there is COMPUERVE, a commercial service available for a flat fee. COMPUERVE is located in Columbus, OH. They have a local telephone number in St. Louis. You can sign up for the service at any Radio Shack store. That includes 1 hr on the system. Why subscribe

to this? Well, COMPUERVE has a database called HAMNET in which bulletin messages and reports are placed. One of these sections is for RTTY/PACKET INTEREST. In the few days I've been on the system, I've found out about several other PACKET interest groups around the country. Add to this the fact that you can have a QSO with other chaps on the service in real time, anywhere in the country. Not a bad deal.

Things are happening fast at the FCC. CB licensing is no more and there will almost certainly be a code-free license before the first of the year. A lot of changes are in store, like it or not.

If you need further proof of this, look (p.7) elsewhere in this issue for the new FCC rules regarding digital communications on the ham bands. They are effective on October 28!

If you are planning on being a BETA TEST SITE please try to make our next meeting. We expect important information on the famous "boards" will be discussed. There might even be a surprise or two!

73

Pete, WB9FLW

CompuServe ID #72355,1523

* * * * * WEST TEXAS PACKET ACTIVITY * * * * *

from: Cliff Cole, K5VDV
to: ALL

The Radio Amateurs of Texas Tech (RATTS) have completed the first stages of their construction of a packet repeater. The system is similar in design to the KA6M machine. It will be on 146.58 mHz and should be operational by the first of the year, if programming goes easily.

73,
Cliff Cole, K5VDV

from CompuServe Hamnet Database - 29, Sept., '82
#####

ANTENNA WORKSHOP DATE ANNOUNCED November 6, 1:00

K9EID, Bob, invites all amateurs interested in constructing their own vhf antennas to attend an ANTENNA WORKSHOP - at Heil Sound, Marissa, IL.

OCTOBER MEETING AGENDA

Have you ever laid out a circuit board?

Have you ever wondered how a professional artist lays out a circuit board?

Want to know what the BETA BOARD will look like?

Mr. Jeff Eirvin of Interconnections will be our guest speaker. Jeff has 14 years of experience in circuit board design and has been contracted by TAPR to lay out the soon to be released BETA Board. This program could help you make a better board for your next project.

Pete, WB9FLW, will report on the meeting of AMSAT at which discussions centered around the standardization of protocol. Held in Washington DC, this meeting set standards to be used on the Phase III B satellite set for launch in February of 1983.

KA9Q, Phil Karn, has put together a video tape of a three dimensional computer-generated representation of the orbit of Phase III B as would be seen from the satellite. This may be your only opportunity to see St. Louis from a height of 40,000 kilometers. This tape was a real "show stopper" at the AMSAT convention.

OCTOBER 25

GRAND TETON ROOM

DEACONESS HOSPITAL

7:30 PM

:::::::::::::::::::::::::::::::::::

Cut here and mail to SLAPR PROTOCOL, 1309 GLOUCESTER, EDWARDSVILLE, IL 62025.

Please help the executive committee and the constitution committee by sharing your opinion of the following:

1. The St. Louis Area Packet Radio club is
 - a. a packet radio club.
 - b. a computer networking club.
 - c. a special interest amateur radio club.
 2. Membership should be
 - a. limited to licensed amateur radio operators.
 - b. open to all interested individuals.
 3. Membership should be
 - a. open to all applicants who keep up their dues.
 - b. restricted to those who are voted in by a majority of the members at the time of application.
 4. Election of officers should be
 - a. by simple majority of members present at a stated meeting.
 - b. by secret ballot, from a slate presented in writing by a nominating committee to the entire membership.
 5. 145.65
 - a. is acceptable
 - b. is not acceptableas the St. Louis digipeater frequency.
- Thank you for your help to make SLAPR what we all want it to be.

SLAPR PROTOCOL
ST. LOUIS AREA PACKET RADIO CLUB
1309 GLOUCESTER DR.
EDWARDSVILLE, IL 62025

* ANTENNA WORKSHOP *
* NOVEMBER 6 *
* HEIL SOUND *
* MARISSA, IL *
* DESIGN AND BUILD ONE *

KAGM MAGNUSKI HANK
311 STANFORD AVE

MENLO PARK, CA 94025

NEXT SLAPR MEETING
CIRCUIT BOARD DESIGN
7:30 PM ON OCTOBER 25, 1982
GRAND TETON ROOM, 7TH FLOOR
DEACONESS HOSPITAL
6150 OAKLAND, 40 AT HAMPTON
ACROSS FROM FOREST PARK
ST. LOUIS, MO

